HOW TO APPLY - Go to the website and start an account

https://gradschool.nmsu.edu/how-to-apply/

Requirements Documents:

Graduate school application fee*
Official transcripts from each previous institution
Statement of purpose
Curriculum vitae
Official TOEFL or IELT score, sent directly from ETS**
Three Letters of Recommendation

*Fee waivers are available for domestic applicants. Contact etyukl@nmsu.edu
**Only international applicants from undergraduate institutions *not* taught in English.

Financial Aid

All *first-year graduate students* in the Department of Chemistry and Biochemistry receive financial aid in the form of a Teaching Assistantship. In addition, **qualified applicants are automatically entered for an Enhancement Award to completely offset the cost of tuition.** Continued support through assistantships and/or awards is available for 3 years (M.S.) or 5 years (PhD) contingent on student performance and availability of funds.

Scholarships

Other awards, assistantships and fellowships are available to new and current graduate students. Please visit gradschool.nmsu.edu/awards_fellowships for more information. **Outstanding new applicants will be nominated by faculty for fellowships by March 1st so apply early!**

Deadlines

Review of applications will begin on January 1st and continue until open positions are filled. Domestic applications received after July 1st or international applications received after March 1st will not be consider for Fall enrolment

For questions regarding our program, please contact Dr. Erik Yukl etyukl@nmsu.edu

For questions regarding *tuition and fees*, visit http://uar.nmsu.edu/tuition-rates

Additional information is available on the web: chemistry.nmsu.edu

Department of Chemistry and Biochemistry
MSC 3C, P.O. Box 30001
New Mexico State University
Las Cruces, NM 88003-8001
575.646.2505

New Mexico State University

Chemistry & Biochemistry
New Mexico State University

WELCOME TO CHEMISTRY & BIOCHEMISTRY

The Department of Chemistry and Biochemistry offers M.S. and Ph. D. degrees in Chemistry with emphases in Analytical, Biochemistry, Inorganic, Organic and Physical chemistry. With 16 research active faculty, you are sure to find research that excites you! Graduates from our program have gone on to productive careers in academia, industry and government. So can you!

ABOUT NEW MEXICO STATE UNIVERSITY

Founded in 1888, New Mexico State University is the state's land-grant university, and takes seriously its mission, "serving the educational needs of New Mexico's diverse population through comprehensive programs of education, research, extension education, and public service."

Classified by the Carnegie Foundation as a Research University with high research activity, NMSU also ranks 4th in R&D expenditures among High Hispanic Enrollment Institutions based on the National Science Foundation Higher Education Research and Development survey and ranks 6th in expenditures in life sciences.

Recently, *Diverse Issues in Higher Education* ranked NMSU 11th in the nation for the number of undergraduate degrees in biological and biomedical sciences awarded to Native American students and 29th in the number awarded to Hispanic students.

NM STATE

LAS CRUCES & MESILLA

Situated in the Chihuahuan desert, Las Cruces is home to many museums and attractions, and is famous for the majestic Organ Mountains, now a national monument. In the fertile Mesilla valley, the Rio Grande meanders past shady pecan orchards and colorful chile fields, highlighting the significance of agriculture to the vibrant local economy. Las Cruces is the second largest city in New Mexico, after Albuquerque, with a population of 100,000, with over 200,000 when combined with Dona Aña County.

LOCAL ATTRACTIONS AND EVENTS

Museum of Art • Museum of Nature and Science • Farm and Ranch Heritage Museum
Southern New Mexico State Fair and Rodeo • Farmer's Market • Old Mesilla
Salsafest • Wine / Beer Festivals • Cinco de Mayo Fiesta

OUTDOOR ACTIVITIES

Hiking at Dripping Springs • Soledad Canyon • Aguirre Springs • Picacho Peak
Baylor Pass • Prehistoric Trackways National Monument • Kilbourne Hole

POPULAR DESTINATIONS

White Sands National Monument • Carlsbad Caverns • Gila National Forest
Albuquerque • Santa Fe • Taos • Cloudcroft • Ruidoso • Tucson / Phoenix, AZ

EL PASO, TEXAS

Just south of Las Cruces is the city of El Paso, Texas – a large metropolitan area which, when combined with its sister city of Ciudad Juárez, Mexico, boasts a population of over 2.7 million. Consistently ranked as the safest large city in the United States, El Paso is home to several federal and military agencies, including Fort Bliss, and is home to the El Paso Chihuahuas AAA minor league baseball team. With access to an international airport, great shopping, arts and culture, and a vibrant night life, El Paso will be the place to visit on the weekends.

LOCAL ATTRACTIONS AND EVENTS

Downtown El Paso • Music Festivals • The Sun Bowl • Symphony Orchestra
Museum of History • Holocaust Museum • International Museum of Art
Museum of Archaeology • War Eagles Museum • Plaza Theatre • El Paso Zoo
Sunland Racetrack and Casino • Western Playland • Mt. Cristo Rey
Guadalupe Mountains National Park • Franklin Mountains • Heuco Tanks

Gary Rayson • Analytical Chemistry

gdrayson@nmsu.edu

Our research involves analysis of complex environmental and agricultural samples using multivariate analysis of multi-dimensional spectroscopic response surfaces. One example uses 3-dimensional fluorescence spectra of fecal samples to determine free-ranging animal ingestion of locoweed.

Sergei Smirnov • Physical Chemistry

snsm@nmsu.edu web.nmsu.edu/~snsm/group

My group studies physicochemical aspects of nanomaterials and their applications including hybrid nanoporous materials in drug delivery and sensors, fundamental aspects of CVD growth of 2D materials and their applications in sensors, desalination, photovoltaic devices, and composite materials.

Marat Talipov • Computational Chemistry

talipovm@nmsu.edu

Our research focuses on harnessing the power of supercomputers for discovery of novel small molecules and machine-learning design of photovoltaic materials and drugs.

Cory Windorff • Inorganic Chemistry

windorff@nmsu.edu

Uranium plays an important role as part of low carbon energy generation with a difficult past. We aim to better understand the electronic structure and reactivity of uranium for use as part of more robust nuclear fuels and to help remediate contaminated drinking water.

Erik Yukl • Biochemistry

etyukl@nmsu.edu wordpress.nmsu.edu/etyukl

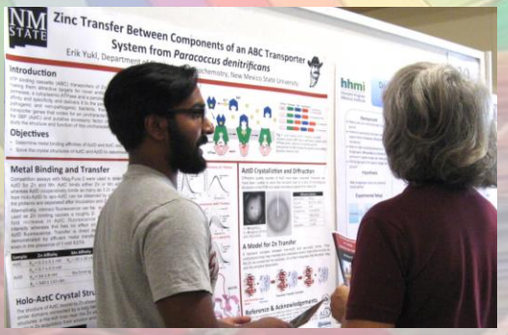
Our lab studies bacterial proteins that mediate zinc import and nitric oxide / oxidative stress sensing. These processes are essential for virulence among pathogenic bacteria. We use various biopysical and spectroscopic techniques including structure determination by X-ray crystallography.

DEPARTMENT INFO

The Department of Chemistry and Biochemistry offers MS & PhD degrees in Chemistry with emphases in:

Analytical • Biochemistry • Inorganic
Organic • Physical

- **Take advanced courses with small class sizes**
- **Join a highly diverse and international community**
- **Conduct dynamic, cutting-edge, inter-disciplinary and collaborative research**



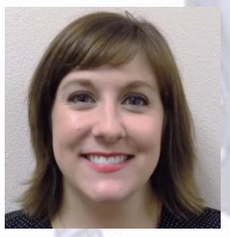
Be proud to represent our department by attending and presenting your work at regional, national and international conferences

Travel grants are available

Jeffrey Arterburn • Synthetic Medicinal Chemistry

jarterbu@nmsu.edu

Our research harnesses the power of synthetic chemistry for cancer drug discovery and the design of novel biological probes. Current projects focus on new therapies for breast cancer and lipid labeling with fluorescent dyes for live cell and super-resolution microscopy.



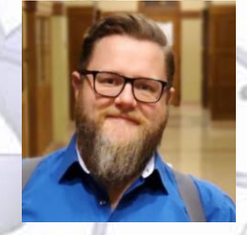
Amanda Ashley • Biochemistry / Toxicology

ashleyak@nmsu.edu ashleylab.nmsu.edu

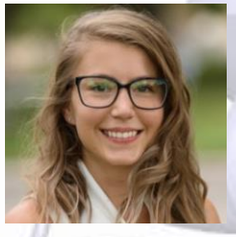
DNA repair systems protect cells from damage and regulate cellular response to replication stress. Our research focuses on perturbations in DNA replication and repair in cancer biology and neurodegenerative conditions to provide novel targets for therapeutic intervention.

Christopher Baker • Analytical Chemistry

cabaker@nmsu.edu www.bakerscience.com



Understanding the molecular mechanisms of biology requires working with highly complex mixtures of biomolecules, often in very small quantities. The Baker Bioanalysis Lab develops new tools for sampling and analyzing biomolecules to better understand the molecular mechanisms of neuroscience, and to help search for the molecular signatures of life elsewhere in our solar system.



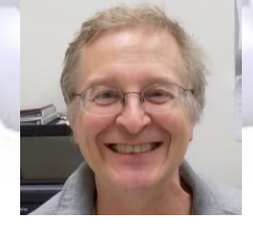
Samantha Carlisle • Biochemistry / Toxicology

samcarli@nmsu.edu

Dr. Carlisle's research focuses on exploring the role of arylamine N-acetyltransferases (NATs) in endogenous cellular metabolism and the impact this role has in the metabolic diseases of cancer and diabetes. Her research utilizes a combination of wet-lab and computational methods (bioinformatics).

Gary Eiceman • Analytical Chemistry

geiceman@nmsu.edu eicemanresearchgroup.nmsu.edu



Reactions of molecules with ions in the gas phase are the basis for measurements with advanced instruments. We explore such reactions to enable technology development for air quality monitoring on spacecraft, detection of explosives in airport security, and human metabolomics for diagnosis of diseases.

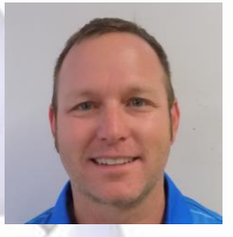
James Herndon • Organic Chemistry

jherndon@nmsu.edu

We design multicomponent reactions that rapidly and reliably transform simple starting materials into complex polycyclic ring systems, using the unique reactivity of carbon transition metal systems as the primary tool. These products frequently permit facile access to medicinally-important compounds.

Kevin Houston • Biochemistry

khouston@nmsu.edu khouston.nmsu.edu



Tamoxifen treatment is a common therapy for women with estrogen receptor positive breast cancer. Our laboratory discovered a new mechanism of tamoxifen action and we currently investigate the role of this mechanism in the development of chemoresistance.

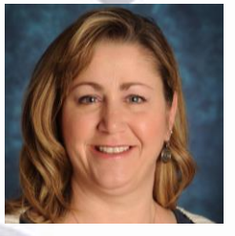
Antonio Lara • Analytical Chemistry

alara@nmsu.edu

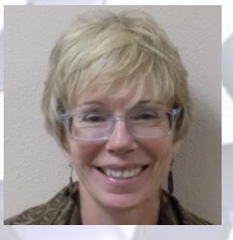
Our research focus is to abate heavy metals & pathogens from scarce and contaminated water sources, surface or ground, to produce potable water. This is most important for the Navajo Nation and Third World countries. The sorption materials are clay pellets that can be produced anywhere in the world.

Shelley Lusetti • Biochemistry

slusetti@nmsu.edu wordpress.nmsu.edu/slusetti



The Lusetti lab is interested in the biochemical roles of novel enzymes involved in DNA damage response pathways through the reconstitution of recombinational DNA repair pathways. We employ comparative biochemistry to explain the differential DNA damage tolerance of multiple bacterial organisms.



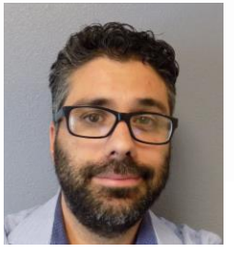
Barbara Lyons • Biochemistry / Physical Chemistry

blyons@nmsu.edu

My research seeks to identify the active functional form of the signaling molecules Grb7 and DNAJB1-PKAc, and to define the mechanistic details of how these molecules work in the establishment of primary tumors and metastases in breast and liver cancer.

William Maio • Synthetic Organic Chemistry

wmaio@nmsu.edu williammaio.com



Marine organisms continue to be a source of novel natural products with interesting structural features and unique biological activity. Our laboratory is currently focused on the development of new synthetic methods useful in total synthesis.